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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,143	12/19/2001	Jason F. Hunzinger	09752-108001 / 00-043	3539

27572 7590 12/13/2005

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EXAMINER

LE, DANH C

ART UNIT	PAPER NUMBER
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2683

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/032,143

Applicant(s)

HUNZINGER, JASON F.

Examiner

DANH C. LE

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-7,14-20,25-27 and 29-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-7, 14-20, 25-27, 29-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**1. Claims 1, 2, 5-7, 14-16, 18-20, 25, 26, 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas (US 6,697,642).**

As to claim 1, Thomas teaches a method for beam steering (figure 6) comprising:  
measuring (646) received signal characteristics of the beam;  
providing feedback (629) based on the signal characteristics; and  
adapting (640) the beam based feedback information including relative strength information.

Thomas fails to teach the information regarding a first signal with respect to the second signal. Hottinen teaches the information regarding a first signal with respect to the second signal (col.6, lines 12-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Hottinen into the system of Thomas in order to adjust the direction of the antenna.

As to claim 2, Thomas teaches method of Claim 1, further comprising using a one-bit punctured on a reverse link channel as feedback to indicate quality of a current signal compared a previous signal (col.15, line 51-col.16, line 17).

As to claim 5, Thomas teaches the method of Claim 1, further comprising the feedback information on a pre-determined transmitting schedule (transmit periodically).

As to claim 6, Thomas teaches the method of Claim 1, further comprising transmitting feedback information when requested (col.10, lines 13-30).

As to claim 7, Thomas teaches the method of Claim 1, further comprising steering the beam to ensure a strong signal strength (col.10, lines 12-30).

As to claim 14, Thomas teaches a method of determining a beam transmission path (figure 12a-c) comprising:

transmitting a beam sweep through a sector;  
determining signal conditions for the beam throughout the sweep; and  
providing feedback based on the signal conditions including the relative information indicating a preferred transmission path.

Thomas fails to teach the information regarding a first signal with respect to the second signal. Hottinen teaches the information regarding a first signal with respect to the second signal (col.6, lines 12-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Hottinen into the system of Thomas in order to adjust the direction of the antenna.

As to claim 15, Thomas teaches method of Claim 14, further comprising correlating the feedback with a sweep schedule (transmit periodically).

As to claim 16, Thomas teaches the method of Claim 14, wherein the feedback includes a relative strength indicator and further comparing relative strength indicator of

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the signal throughout the beam sweep (RSSI signal, col.8, lines 3-13 and col.12, lines 6-24).

As to claim 18, Thomas teaches the method of Claim 14, wherein the feedback comprises a single bit which indicates a quality of a current signal compared to a previous signal (col.15, line 51-col.16, line 17).

As to claim 19, Thomas teaches the method Claim 14, further comprising transmitting a plurality of beam sweeps, wherein a first the plurality of beam sweeps is for demodulation (col.8, lines 3-13).

As to claim 20, Thomas teaches the method of Claim 14, further comprising comparing a relative difference between feedback results to determine a preferred transmission path (col.12, lines 6-24).

As to claim 25, the claim is a system claim of claim 1; therefore, the claim is interpreted and rejected as set forth as claim 1.

As to claim 26, the claim is a system claim of claim 2; therefore, the claim is interpreted and rejected as set forth as claim 2.

As to claim 30, the claim is a system claim of claim 5; therefore, the claim is interpreted and rejected as set forth as claim 5.

As to claim 31, the claim is a system claim of claim 6; therefore, the claim is interpreted and rejected as set forth as claim 6.

As to claim 32, the claim is a system claim of claim 7; therefore, the claim is interpreted and rejected as set forth as claim 7.

**2. Claims 4 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas and Hottinen in view of Thomas (US 6,498,939).**

As to claim 4, Thomas and Hottinen teaches the method of Claim 1, Thomas and Hottinen fails to further teach comprising the number of multipaths as part the transmitting feedback information. Thomas teaches the number of multipaths as part the transmitting feedback information (figure 5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Thomas into the system of Thomas and Hottinen in order to optimize the signal strength.

As to claim 29, the claim is a system claim of claim 4; therefore, the claim is interpreted and rejected as set forth as claim 4.

**3. Claims 17 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thomas and Hottinen in view of Tiedemann (US 6,396,867).**

As to claim 17, Thomas and Hottinen teaches the method of Claim 14, wherein the feedback comprises a single bit, Thomas and Hottinen fails to teach the single bit indicates whether an earliest received signal is the strongest. Tiedemann teaches the single bit indicates whether an earliest received signal is the strongest (col.19, lines 13-29). ). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Thomas into the system of Thomas and Hottinen in order to adjust the select forward link power control bits.

As to claim 27, the claim is a system claim of claim 17; therefore, the claim is interpreted and rejected as set forth as claim 17.

***Response to Arguments***

Applicant's arguments with respect to claims 1, 2, 4-7, 14-20, 25-27, 29-32 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A. Hottinen et al (US 6,584,161) teaches transmit diversity method and system.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANH C. LE whose telephone number is 571-272-7868. The examiner can normally be reached on 8:00AM-5:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, WILLIAM TROST can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "danh", is written over a horizontal line.

November 30, 2005

DANH CONG LE  
PATENT EXAMINER